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**Civil Engineer**

**AIR FORCE COMPREHENSIVE PLANNING**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This Air Force Instruction (AFI) implements Air Force Policy Directive (AFPD) 32-70, *Environmental Quality*, by establishing the *Air Force Comprehensive Planning Program* for development of Air Force installations. It contains responsibilities and requirements for comprehensive planning and describes procedures for developing, implementing, and maintaining the *General Plan* within the installation *Comprehensive Plan*.

**SUMMARY OF REVISIONS**

**This document is substantially revised and must be completely reviewed.**

This revision supersedes Air Force Instruction (AFI) 32-7062, 18 April 1994. The revised AFI specifies requirements for *General Plan* submittals; provides minimum level of mapping details for *General Plans*; provides map and graphic layers for *Comprehensive Plans*; identifies proponents for plan products; changes term *Elements* to *Special Plans and Studies*, and provides guidance and references on site planning explosives facilities.

## Chapter 1

### BACKGROUND, CONCEPT, AND RESPONSIBILITIES

**1.1. Background** This instruction provides guidance on implementing the *Air Force Comprehensive Planning Program*. It furthers the policies and goals of the *National Environmental Policy Act of 1969* (Public Law 91-190) to improve and coordinate plans, and to use the physical and social sciences in planning and decision-making.

**1.2. Concept.** This instruction defines major command (MAJCOM) and installation comprehensive planning requirements and responsibilities for executing the *Air Force Comprehensive Planning Program*. It gives MAJCOMs and installations the flexibility to develop and maintain comprehensive plan documents necessary to execute their planning program.

#### **1.3. Responsibilities:**

**1.3.1. The Assistant Secretary of the Air Force for Manpower, Reserve Affairs, Installations, and Environment (SAF/MI).** Promulgates and oversees policy for the *Air Force Comprehensive Planning Program*, environmental planning, and related areas.

#### **1.3.2. Headquarters United States Air Force (HQ USAF):**

**1.3.2.1. The Civil Engineer (HQ USAF/ILE).** Issues policy, allocates resources, and oversees execution of the *Air Force Comprehensive Planning Program*.

**1.3.2.2. HQ USAF/RE.** Provides policy and oversight to ensure reserve installations comply with comprehensive planning requirements.

**1.3.3. National Guard Bureau (NGB).** Ensures NGB Civil Engineers comply with comprehensive planning policy, and provides oversight for NGB installations.

#### **1.3.4. Field Operating Agencies (FOAs)**

**1.3.4.1. Headquarters Air Force Center for Environmental Excellence (HQ AF CEE).** Formulates comprehensive planning guidance. Provides technical planning assistance and support to installations, MAJCOMs, FOAs, and HQ USAF. Organizes and manages planning assistance teams to help installations address unique and challenging problems. Prepares criteria, standards and guidance to implement program policy. Supports development of computer-aided design and drafting and geographic information systems, and other interactive computer graphics systems. Maintains copies of *General Plans*.

**1.3.4.2. Headquarters Air Force Civil Engineer Support Agency (HQ AFCESA).** Provides technical support for those component areas of comprehensive planning in which it has expertise, to include readiness and survivability, energy, fire protection, systems engineering, and operations and maintenance.

**1.3.5. MAJCOM Responsibilities.** All references to MAJCOMs in this AFI include the Air National Guard Readiness Center (ANGRC), Headquarters Air Force Reserve (HQ AFRES), and other agencies designated as "MAJCOM equivalent" by HQ USAF. MAJCOM Civil Engineers will:

- Ensure comprehensive planning documents are completed, maintained, and implemented for major installations; and issue guidance to supplement this AFI, as needed.

- Review comprehensive planning documents and subsequent amendments to ensure they comply with Air Force criteria and standards and effectively support mission goals and objectives.

**1.3.6. Installation Commander Responsibilities.** Air Force installation commanders ensure appropriate comprehensive plan documents are developed, maintained and implemented to optimize facility investments in support of their installation's mission requirements. The installation commander approves the *General Plan*

## Chapter 2

### COMPREHENSIVE PLANNING REQUIREMENTS

**2.1. Purpose.** Comprehensive planning establishes a systematic framework for decision-making with regard to the development of Air Force installations. It incorporates Air Force programs such as, operational, environmental, urban planning, and others, to identify and assess development alternatives and ensure compliance with applicable federal, state and local laws, regulations, and policies. See Attachment 1 for definitions of planning terms.

**2.2. Process.** The comprehensive planning process incorporates a wide range of data and information which allows commanders to logically and thoroughly analyze a variety of factors before making a decision that affects the installation or the surrounding community. The process generally involves most installation agencies who provide or can acquire information and data that is needed in developing specific planning documents or products. The process consolidates plans and programs related to the management and development of Air Force lands, facilities, and resources into a document that is used to guide future growth and development. It encompasses all land areas under Air Force control and regions of influence, as well as the current and projected capability of local communities to provide services to Air Force people. The comprehensive planning process includes an analysis of the current, short- and long-range development potential of the installation. Attachment 2, *Comprehensive Planning Guides*, provides further information on topics related to the Air Force comprehensive planning process; particularly, the bulletin entitled *Comprehensive Planning Approach and Process*.

**2.3. Comprehensive Plan.** A term referring to the cumulative data sources in the form of documents and graphics that provide pertinent information used in the planning and decision-making processes. The Comprehensive Plan is comprised of four basic parts: (1) *General Plan*, (2) *Component Plans*, (3) *Special Plans and Studies*, and (4) *Maps*.

**2.3.1. General Plan.** A decision-makers summary document that contains text, maps, plan graphics, photographs, and other information, in a condensed format. It provides this information at an appropriate level of detail for the installation, the command, and other decision-makers to understand the character and structure of the installation, and its development potential. The *General Plan* generally synthesizes information from the *Component Plans* as well as other planning documents. The *General Plan* is easily updated, and provides flexibility in responding to command and installation mission changes. The *General Plan* is the only required plan document for completion by all major installations under this instruction. Attachment 3 is an outline of the *General Plan* document.

**2.3.2. Component Plans.** There are four *Component Plans* under the comprehensive plan structure:

- (1) *Composite Constraints and Opportunities*
- (2) *Infrastructure*
- (3) *Land Use and Transportation*
- (4) *Capital Improvements Program (CIP)*

The *Component Plans* provide detailed information in the form of graphics, textual data, narrative, and maps that focus on specific functional areas. They provide an extended level of information and

detail as needed to support execution of other Air Force Civil Engineer programs. Attachment 4 describes the four *Component Plans*.

**2.3.3. Special Plans and Studies.** The data bases, documents, and graphics required to be prepared and maintained under other Air Force programs. Examples include *Air Installation Compatible Use Zone Studies*, *Integrated Natural Resources Management Plan* and *Housing Community Plans*. Portions of *Special Plans and Studies* are generally used in developing the *General Plan*, *Component Plans* and *Maps*. Attachment 5 illustrates the general relationship between *Special Plans and Studies* categories and *Component Plans*.

**2.3.4. Maps.** The informational data bases that graphically depict features, such as unique natural and cultural resource boundaries, utility systems, airfield pavements, buildings, and roads. Maps help to visually explain the narrative contained in the *General Plan*, *Component Plans*, and *Special Plans and Studies*. Attachment 6 provides the minimum level of detail for plan and map graphics in the *General Plan*. Attachment 7 is a listing of various maps for comprehensive planning use.

**2.4. Master Statement of Work.** The Air Force document that provides specific details regarding the structure, content, symbology, and other guidance for preparing Air Force Comprehensive Plan documents and related planning products. Each installation preparing plan documents and data bases should comply with the specifications contained in the Master Statement of Work to ensure Air Force-wide consistency, and accommodate information exchange and networking requirements.

**2.5. General Plan Template and Guide.** The *General Plan Guide and Template* assists installations and MAJCOMs in preparing a *General Plan* by providing information and insight on developing appropriate sections of the plan. The guide serves as a reference for structuring content and format to ensure consistency for all Air Force *General Plans*.

**2.6. Plan Updating, Reporting, and Approval.** *General Plans* should be reviewed periodically and updated as information and data changes occur. At a minimum, the *General Plan* will be reviewed annually to ensure it accurately reflects current information regarding the installation's conditions and programs. *Component Plans* and *Maps* should also be reviewed and updated annually. MAJCOMs will establish procedures to review, validate, and approve each of their installation's *General Plans*. Subsequent to MAJCOM approval, *General Plans* and *General Plan* updates will be submitted to HQ USAF/ILEVP and HQ AFCEE/ECC as they are completed. Submittals will be either booklet or electronic format with the latter being the preferred. MAJCOMs will provide a status of their *General Plans* to HQ AFCEE/ECC by 31 March each year.

## Chapter 3

### SITE PLANNING REQUIREMENTS

**3.1. Site Planning Criteria.** Site planning criteria governs the placement of facilities. It is Air Force policy to manage the lands, facilities, and resources under Air Force control in a manner that provides maximum mission effectiveness. The site planning process recognizes the importance of conservation of resources, preservation of the quality of the natural and human environment, cost effectiveness, personnel safety, and functional efficiency.

**3.1.1. Explosives Safety Siting.** Proposed facilities which are intended for the storage, maintenance, processing, and handling of explosives, or facilities proposed within explosives safety clear zones as defined in AFMAN 91-201, *Explosives Safety Standards*, require special siting approval. These facilities must be approved at the appropriate Air Force and/or DOD level before expending funds on any construction activity. AFMAN 91-201, *Explosives Safety Standards*, Chapter 4, describes procedures and requirements for preparing and submitting explosives safety site plans. Coordinating proposed facility site plans with the base safety office will help to preclude building facilities which adversely impact the net explosive weight capacities of existing explosives facilities, or jeopardize using newly-constructed facilities for their intended purpose. An accurate MAP C-1 must be used when preparing explosives safety site plans. The MAP C-1 and MAP M-3 should be reviewed annually with the base safety office to ensure that areas encompassed by inhabited building distance clear zones accurately reflect the location of existing facilities.

**3.1.2. Airfield and Heliport Planning Criteria.** Airfields and heliports require certain clear areas to minimize the risk of injury or damage in the event of an aircraft malfunction or mishap. AFJMAN 32-1013, *Airfield and Heliport Planning and Design*, provides guidance on siting facilities and structures in the airfield environs.

**3.1.3. Environmental Siting Constraints.** The site planning process must address and consider the location of buildings and archeological sites on, or eligible for the National Register of Historic Places, cultural and natural resources, floodplains and wetlands, threatened and endangered species habitats, environmentally-impacted sites, noise, and similar issues. All environmental requirements should be satisfied or resolved before expending funds on any construction activity. Refer to specific environmental program guidance for applicable criteria governing facility site planning.

**3.1.4. Security** Security should be a major consideration in facility site planning; particularly at overseas installations. High occupancy and critical mission facilities exposed to base boundaries could be potential targets for terrorist activities. These facilities should be located away from base boundaries and comply with the respective governing criteria for the theater of operations.

**3.2. Urban Planning and Design Standards and Requirements.** Base-wide development can be greatly enhanced by following established planning principles and approaches. Urban planning and design considerations include land use compatibility, spatial and functional relationships, area development, vehicle and pedestrian circulation, landscape architecture, and architectural compatibility. Several

of the documents referenced in Attachment 2 provide more information on these planning and development subjects.

WILLIAM P. HALLIN, Lt General, USAF  
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## Attachment 1

### GLOSSARY OF TERMS

#### *Terms*

**Comprehensive Planning**—The ongoing, iterative, participatory process addressing the full range of issues affecting or affected by an installation's development. Through this process, goals and objectives are defined, issues are identified, information is gathered, alternative solutions are developed, and a sound decision-making process is employed to select a preferred alternative for implementation.

**Comprehensive Plan**—The combination of the *General Plan*, *Component Plans*, *Special Plans and Studies*, and *Maps* that document a wide range of information necessary for decision-making. It encompasses those specific resource documents and processes determined to be essential for planning and managing an installation's physical assets in support of the mission. The comprehensive plan is the all-encompassing description of the products, whereas comprehensive planning is the action associated with the process and implementation.

**General Plan**—The document that provides the installation commander and other decision-makers a condensed picture of an installation's capability to support the mission with its physical assets and delivery systems. It is a general assessment of the installation's infrastructure and attributes for the purpose of gauging development potential.

**Component Plan**—A detailed document comprised of graphics, textual data, and narrative that focuses on functional areas that support the *General Plan* and the overall comprehensive planning effort. Preparation of *Component Plans* is not specifically required by this instruction. Other installation programs may require the preparation and maintenance of a *Component Plan*. *Component Plan* information should be incorporated into the *General Plan* at an appropriate level of detail.

**Special Plans and Studies**—A source of planning information on a functional area required by a specific Air Force program. Examples include *Housing Community Plans*, *Integrated Natural Resources Management Plans*, *Air Quality Studies*, and *Transportation Studies*.

**Map**—A graphic representation, usually on a plane surface, and at an established scale, of natural or built features on the earth surface, that generally encompasses the installation, surrounding area, and region. The features are positioned relative to a coordinate reference system. Maps in most cases will be computer generated. Maps support the *General Plan*, *Component Plans*, and *Special Plans and Studies*.

**Long-Range Planning**—The planning phase that offers the widest view and the broadest level of detail. This planning phase typically covers a period extending to 20 years in the future. It is the most dynamic phase where the greatest amount of change can be introduced and absorbed with the least expense. Long-Range planning is accomplished through requirements analysis, and the development of future land use and transportation plans.

**Short-Range Planning**—The planning phase which coincides with the lead time for facility construction programs, generally extending 5 years into the future. It is at this phase that planning decisions are integrated with the appropriate construction and funding programs.

**Current Planning**—This phase covers active construction programs, extending approximately one year into the future. This phase can be viewed as the implementation phase, where the Long-Range and Short-Range Plans are translated into physical development. While the information will be the most



detailed available, the opportunity to accommodate changes becomes limited and potentially costly.

**Digital Electronic Data and Systems**—Examples include Geographic Information Systems (GIS), Computer Aided Design and Drafting (CADD), Automated Facility Mapping (AF/FM), Computer Aided Facility Management (CAFM), Multimedia (MM), databases, spreadsheets, graphic interfaces, and other distributed multimedia systems such as the Internet and World Wide Web (WWW). These tools are used in managing, manipulating, and maintaining comprehensive planning information.

## Attachment 2

### COMPREHENSIVE PLANNING GUIDES

**A2.1. Purpose.** Comprehensive planning guides provide detailed information and guidance on planning-related topics. They have been issued to assist in the development of *Comprehensive Plan* documents and the execution of the Air Force Comprehensive Planning Program.

**A2.2. Planning Bulletins, Instructions, Regulations, Manuals, Pamphlets, Hand books, and Guidance:**

1. TRANSPORTATION PLANNING
2. LAND USE PLANNING (AFP 86-7)
3. AICUZ HANDBOOK
4. ARCHITECTURAL COMPATIBILITY
5. AIR FORCE LANDSCAPE DESIGN GUIDE
6. PLANNING AIRBASES FOR COMBAT EFFECTIVENESS
7. UTILITY SYSTEMS PLANNING
8. FIRE PROTECTION PLANNING
9. LONG RANGE FACILITIES DEVELOPMENT PLANNING
10. COMPREHENSIVE PLANNING APPROACH AND PROCESS
11. COMPREHENSIVE PLANNING DATABASES, INFORMATION SOURCES
12. ENVIRONMENTAL QUALITY PROTECTION PLANNING
13. COMMUNICATIONS SYSTEMS PLANNING
14. QUALITY OF LIFE PLANNING
15. PASSIVE SOLAR ENERGY PLANNING
16. AREA DEVELOPMENT PLANNING
17. MASTER STATEMENT OF WORK FOR AIR FORCE PLANNING DOCUMENTS
18. GENERAL PLAN GUIDE & TEMPLATE
19. AIR FORCE ENGINEERING TECHNICAL LETTERS

**A 2.3 Availability.** Contact HQ AFCEE/ECC for more information on the availability of these documents

### **Attachment 3**

#### **OUTLINE OF THE GENERAL PLAN DOCUMENT**

1. COMMANDER'S COVER LETTER (Approves/Endorses the General Plan)
2. TABLE OF CONTENTS
3. INTRODUCTION (Goals and objectives of the plan including vision statement, mission statement, and a brief, general description of the Comprehensive Planning Process)
4. PLAN FINDINGS AND RECOMMENDATIONS
5. INSTALLATION AND VICINITY PROFILE
6. GENERAL PLAN--COMPONENT PLAN OVERVIEW
  - Composite Constraints and Opportunities
  - Infrastructure
  - Land Use and Transportation
  - Capital Improvements Program
7. PLAN MAINTENANCE AND REVISION
8. ACKNOWLEDGMENTS

## Attachment 4

### COMPONENT PLAN DESCRIPTIONS

**A4.1. COMPOSITE CONSTRAINTS & OPPORTUNITIES PLAN.** Integrates natural and cultural resources information, environmental quality issues, airspace restrictions, and operational and safety requirements with other issues that potentially influence planning decisions. Through this integration of information, critical areas having limited or specialized development potential are highlighted and factored into the planning process. The document addresses development potential with respect to existing environmental attributes. It supports decision-making and compliance with environmental laws and mandates.

**A4.2. INFRASTRUCTURE PLAN.** Consolidates all utility delivery systems and infrastructure investments into one source to provide a concise overview of the state of these systems throughout the installation. Emphasis is placed on capacity analysis, systems details, age and condition of facilities, and location of facilities with a clear and understandable graphic presentation. This macro view of these detailed engineering systems provides the decision-maker with the information necessary to clearly comprehend the linkages between these critical engineering systems and the capability to support development identified in the other *Component Plans*. The document also addresses communications systems and navigational aids as they affect development opportunities.

**A4.3. LAND USE AND TRANSPORTATION PLAN.** Analyzes and identifies the functional relationship of all activities that occur on the installation. It defines the process in arriving at future land use determinations by analyzing planning factors that influence land use compatibility. The document evaluates the relationships between activities and defines their importance in terms of proximity to each other. The culminating product is a future land use plan that defines and governs the growth of the installation. This component plan also integrates public and private plans, projects, and developments that can potentially affect the installation. It analyzes the transportation networks both on and off the installation and arrives at recommendations on traffic movement and road development in order to improve efficiency. The plan focuses on the future development of the installation.

**A4.4. CAPITAL IMPROVEMENTS PROGRAM (CIP) PLAN.** Integrates all the primary elements of traditional physical planning, current land use, vicinity land use, existing base layout and facilities, existing transportation systems, and each of the corresponding future plans into one document. Land use and transportation significantly influence development of the *CIP Plan*. The *CIP Plan* identifies in more detail the physical location of projects approved for funding or programmed for funding. The *CIP* integrates the Military Construction (MILCON) Program; Operations and Maintenance (O&M); Military Family Housing (MFH); Nonappropriated Funds (NAF); Morale, Welfare, and Recreation (MWR); depot maintenance industrially funded; and other sources-funded projects that significantly affect facilities and land development. The plan also addresses a number of other programs associated with facility development such as architectural compatibility and landscape development. The CIP can be developed to address alternatives to facility requirements and development in response to EIAP. The quality of Air Force facilities is affected through the programs that are part of this plan.

## Attachment 5

### COMPONENT PLAN ADVOCACY

Component Plan information is more detailed and specific compared to the General Plan. It is structured to accommodate user needs by providing an appropriate level of detail necessary to manage and execute Civil Engineer program requirements. Given their specificity and increased level of detail, the Component Plans generally align themselves with a primary Civil Engineer functional area. The primary functional manager typically advocates developing, maintaining and updating Component Plans as needed to support their program requirements. The following table associates the general functional area with the respective four Component Plans:

**Table A5.1. Component Plan Advocacy.**

<b>FUNCTIONAL AREA</b>	<b>COMPONENT PLAN</b>
<b>PRIMARY: EnvironmentalSecondary:</b> <ul style="list-style-type: none"> <li>• Planning</li> </ul>	<b>COMPOSITE CONSTRAINTS &amp; OPPORTUNITIES PLAN</b> <ul style="list-style-type: none"> <li>• Natural &amp; Cultural Resources</li> <li>• Resource Management Areas (Forest, etc.)</li> <li>• Environmental Quality</li> <li>• Clean Air &amp; Water</li> <li>• Airfield &amp; Explosives Safety</li> <li>• Noise/AICUZ</li> </ul>
<b>PRIMARY: EngineeringSecondary:</b> <ul style="list-style-type: none"> <li>• Communications</li> <li>• Airfield Management</li> <li>• Fire Safety</li> </ul>	<b>INFRASTRUCTURE PLAN</b> <ul style="list-style-type: none"> <li>• Utility Systems</li> <li>• Communication System</li> <li>• Fire Protection</li> <li>• NAVAIDS</li> </ul>
<b>PRIMARY: Planning</b>	<b>LAND USE AND TRANSPORTATION PLAN</b> <ul style="list-style-type: none"> <li>• Base Layout</li> <li>• Regional &amp; Vicinity Location</li> <li>• Existing &amp; Future Land Use</li> <li>• AICUZ</li> <li>• Transportation Systems</li> </ul>
<b>PRIMARY: PlanningSecondary:</b> <ul style="list-style-type: none"> <li>• Programming</li> <li>• Design</li> <li>• Housing</li> </ul>	<b>CAPITAL IMPROVEMENTS PROGRAM (CIP) PLAN</b> <ul style="list-style-type: none"> <li>• Short- &amp; Long-Range Development Plans</li> <li>• Area Development Plans</li> <li>• Housing Community Plan</li> <li>• Architectural Compatibility Guidelines</li> <li>• Landscape Development Plan</li> </ul>

## Attachment 6

### GENERAL PLAN MINIMUM LEVEL OF DETAIL FOR PLAN AND MAP GRAPHICS

**Table A6.1. General Plan Minimum Level of Detail for Plan and Map Graphics.**

The following table lists the different map and plan graphics that are used in developing the <i>General Plan</i> . Certain map layers are <b>Mandatory (M)</b> and will be included in each <i>General Plan</i> , other map layers are important but <b>Optional (O)</b> and can be incorporated as needed to support text information. If desired, information from individual map layers can be consolidated on a composite map.		
<b>GENERAL PLAN MAP LAYER</b>	<b>M or O LAYER</b>	<b>LEVEL OF DETAIL OF THE MAP LAYER</b>
<b>OPPORTUNITIES &amp; CONSTRAINTS</b>		
Opportunities & Constraints Composite Map	<b>M</b>	A single map integrating overlay information on any variety of specific map and plan topics in this category
Historic Buildings and Archeological Sites	<b>M</b>	Single point or boundary delineation of affected area
Threatened and Endangered Species	<b>M</b>	Single point or boundary delineation of affected area
Wetlands & Floodplains	<b>M</b>	Wetlands delineated by specific areas. Floodplain designated by 100 year flood
State Coastal Zones	<b>M</b>	Boundary delineation of affected area
Lakes, Rivers, Streams, and Water Bodies	<b>O</b>	Shoreline and groundplane locations
Soils Borings and Soil Types	<b>O</b>	Single point and boundary delineation of soil type
Geology	<b>O</b>	Single point or boundary delineation for appropriate category of geological feature (mineral deposits, geothermal, etc.)
Topography & Physiography	<b>O</b>	5 ft contour interval
Hydrology & Surface Drainage	<b>O</b>	Boundary delineation and groundplane location of drainage patterns and basins
Vegetation Types	<b>O</b>	Boundary delineation of designated vegetation area
Forest (Commercial Timber)	<b>O</b>	Boundary delineation of designated forest area
Agricultural Grazing/Crops (Out-leasing)	<b>O</b>	Boundary delineation of designated grazing & cropland outleased areas
Fish & Wildlife	<b>O</b>	Boundary delineation of designated areas
Prime & Unique Soils	<b>O</b>	Boundary delineation of USDA/state agriculture soils
Grounds Categories	<b>O</b>	Boundary delineation of improved, semi-improved, unimproved grounds
BASH	<b>O</b>	Boundary delineation of designated BASH areas

Outdoor Recreation	<i>O</i>	Boundary delineation of outdoor recreation areas
Environmental Regulatory Hazardous Waste and Hazardous Materials (HWHM) Generation Points	<i>M</i>	Single point delineation of sites
Environmental Regulatory Hazardous Waste and Hazardous Materials (HWHM) Permitted Storage Facilities	<i>M</i>	Single point delineation of sites
Solid Waste Disposal Points and Locations and Recycling Locations	<i>M</i>	Boundary delineation and single point
Resource Conservation and Recovery Act (RCRA) Sites	<i>M</i>	Single point or boundary delineation of impacted areas
Installation Restoration Program (IRP) Sites	<i>M</i>	Single point or boundary delineation of impacted areas
Air Emissions	<i>O</i>	Single point of generating source
Waste Water (NPDES) Discharge	<i>O</i>	Single point of generating source
Storm Water (NPDES) Discharge	<i>O</i>	Groundplane drainage flow pattern
Drinking Water Supply Source	<i>O</i>	Single point of supply source
Electromagnetic (EM) and Radiation	<i>O</i>	Single point delineation of sources
EM--Antenna Look Angles	<i>O</i>	Groundplane delineation
Radon Emissions	<i>O</i>	Locations/sources exceeding 30 picocuries/l
Airfield Clearances and Imaginary Surfaces	<i>M</i>	Primary surface, clear zones, and approach-departure corridors of active runways
Explosives Safety Zones	<i>M</i>	Quantity-Distance (Q-D) Arcs
<b>INFRASTRUCTURE</b>		
Composite Utility System Map	<i>M</i>	A single map integrating overlay information on any variety of specific map and plan topics in this category
Water Supply	<i>M</i>	Single point or groundplane delineation of wells, storage locations, and six inch pipe and above distribution lines
Sanitary Sewerage	<i>M</i>	Main trunk line and lift stations
Storm Drainage	<i>M</i>	Main trunk line
Electrical Distribution	<i>M</i>	Above and underground primary distribution lines and substations
Central Heating and Cooling	<i>O</i>	Underground pipe
Natural Gas Distribution	<i>M</i>	Storage and distribution
Liquid Fuel	<i>O</i>	Primary lines

Fuel Storage Tanks	<i>M</i>	Below and above ground tanks 10,000 gallons or greater
Cathodic Protection	<i>O</i>	Mains/lines and protection
Industrial Waste and Drain	<i>O</i>	Groundplane delineation of lines, manholes, pumping stations., treatment plants, and outfalls
Other Utility Systems	<i>O</i>	Mains/Lines
Communications & NAVAID	<i>M</i>	Groundplane delineation of government and non-government major fiber optics, cable, communication, telephone lines
Fire Protection	<i>O</i>	Fire Station Locations
<b>LAND USE</b>		
Installation Layout	<i>M</i>	Existing facilities, streets, roads and airfield pavements
Off-Base Sites	<i>O</i>	Off-base layout of existing facilities, streets, roads and airfield pavements
Regional Location	<i>O</i>	Reference to nearest major city
Vicinity Location	<i>O</i>	Within 5 miles of the installation
Existing Land Use	<i>M</i>	Existing land uses delineated in color or pattern
Future Land Use	<i>M</i>	Future land uses delineated in color or pattern
Vicinity Existing Land Use	<i>O</i>	Off base existing land use plan and Transportation plan that defines and governs the growth of the adjacent vicinity in color or pattern
Vicinity Existing Zoning	<i>O</i>	Existing zoning of the adjacent vicinity in color or pattern
Air Installation Compatible Use Zone (AICUZ) and Noise Contours	<i>M</i>	APZ I, II, CZ, noise contours in LDN at 5dB increments
JLUS-Adjacent Community Land Use	<i>O</i>	Existing land use or zoning plan as presented in JLUS study
Transportation Systems	<i>M</i>	Interstate (limited access), arterials, collectors, feeders on base
Contingency Plans	<i>O</i>	Single point or boundary delineation of facilities designated for use in mobilization or emergency
<b>CAPITAL IMPROVEMENTS PROGRAM (CIP) PLAN</b>		
Aircraft Pavement Plan	<i>O</i>	Layout, type of pavement, and bearing capacity, as well as condition of runways, taxiway and aprons by color or symbol
Airfield Pavement Details	<i>O</i>	Details, cross sections, elevations
Aircraft Parking Plan	<i>O</i>	Aircraft parking positions by block or figures



Energy	<i><b>O</b></i>	Facilities targeted for reduced energy consumption
Architectural Compatibility	<i><b>O</b></i>	Architectural districts for: paint plans, treatment related compatibility issues
Landscape Development	<i><b>O</b></i>	Landscape districts for special treatment
Current Development Plan; One to two (1-2) year program	<i><b>O</b></i>	Projects or facilities programmed for construction, addition or alteration over the next one to two FY on map and include project chart
Short-Range Development Plan; Six (6) year program	<i><b>M</b></i>	Physical location of those projects approved or programmed for funding. Show and list facilities approved for construction, addition or alteration over the next six (6) years on map and include project chart
Long-Range Development Plan; Minimum twenty (20) year program	<i><b>M</b></i>	Facilities planned for construction, addition or alteration over a minimum of the next twenty (20) years on map and include project chart
Quality of Life	<i><b>O</b></i>	Facilities targeted for commanders QoL program

## **Attachment 7**

### **COMPREHENSIVE PLAN MAP AND GRAPHIC LAYERS**

The following is a list of map and plan graphics associated with *Air Force Comprehensive Planning*. They are used to support comprehensive planning efforts and supplement information presented in *General Plans, Component Plans, and Special Studies*. Standards and specifications for preparing most of these products are found in the Air Force Master Statement of Work.

#### **A-Natural and Cultural Resources**

##### **A-1 Areas of Critical Concern**

- Historic Preservation and Archeology
- Threatened and Endangered Species
- Wetlands & Floodplains
- State Coastal Zones
- Lakes, Rivers, Streams, and Water Bodies
- Soil Borings & Soil Types

##### **A-2 Management Areas**

- Geology, Including Surface Features
- Topography & Physiology
- Hydrology
- Vegetation Types
- Forest (Commercial Timber)
- Agriculture Grazing/Crops
- Fish and Wildlife
- Prime & Unique Soils
- Grounds Categories
- Climate & Weather
- Bird Aircraft Strike Hazard (BASH)
- Outdoor Recreation
- Pest Management

#### **B-Environmental Quality**

##### **B-1 Environmental Regulatory**

- Hazardous Waste Generation Points
- Permitted Hazardous Facilities
- Solid Waste Generation Points
- Solid Waste Disposal Locations
- Fuel Storage Tanks
- Installation Restoration Program (IRP)

## B-2 Environmental Emissions

- Air Emission
- Waste Water NPDES Discharge
- Storm Water NPDES Discharge
- Drinking Water Supply Sources
- Electromagnetic and Radiation Sources
- Radon Sources

## C-Layout and Vicinity Maps

### C-1 Installation Layout

### C-2 Off-base Sites

### C-3 Regional Location Map

### C-4 Vicinity Location Map

### C-5 Aerial Photographs

### C-6 Installation Layout-Half Scale

## D-Land Use Planning

### D-1 Existing Land Use Plan

#### D-1.1 Future Land Use Plan

### D-2 Off-base Sites Land Use

#### D-2.1 Off-base Sites Future Land Use

### D-3 Vicinity Existing Land Use

### D-4 Vicinity Existing Zoning

### D-5 Real Estate

### D-6 Composite Installation Constraints and Opportunities

### D-7 Functional Relationship

D-8 Explosive Safety Quantity-Distance

D-9 Hazard Analysis Constraints

D-10 Area Development Plan (ADP)

E-Airfield Operations

E-1 On base Obstruction to Airfield and  
Airspace Criteria

E-2 Approach and Departure - Zone Obstructions  
to 10,000 Ft

E-3 Approach and Departure Zone Obstructions  
Beyond 10,000 Ft

E-4 Airspace Obstruction - Vicinity

E-5 Terminal Enroute Procedures (TERPS) Automation Plan

E-6 Airfield and Airspace Clearances

- Waivers
- Clear Zones
- Primary Surfaces
- Transitional Surface (7:1)
- Approach and Departure Surface (50:1)
- Approach and Taxiway Clearances

E-7 Airfield Pavement Plan

E-8 Airfield Pavement Details

E-9 Aircraft Parking Plan

E-9.1 Proposed Aircraft Parking Plan

E-10 Airfield Lighting Systems

F-Air Installation Compatible Use Zone (AICUZ)

\*(NOTE: May include in the D-6 as D-6/F)

F-1 Compatible Use Districts

F-2 On-base Noise Contours Development

## G-Utilities System Plan

### G-1 Water Supply System

### G-2 Sanitary Sewerage System

### G-3 Storm Drainage System

### G-4 Electrical Distribution System (Street & Airfield)

### G-5 Central Heating and Cooling System

### G-6 Natural Gas Distribution System

### G-7 Liquid Fuel System

### G-8 Cathodic Protection System

### G-9 Cathodic Protection System Details

### G-10 Industrial Waste and Drain System

### G-11 Composite Utility System Constraints

#### G-11.1 Central Aircraft Support System

### G-12 Other Utility Systems

## H-Communication and NAVAID Systems

### H-1 Basewide Communication (Air Force communications units and others)

### H-2 NAVAIDs and Weather Facilities

## I-Transportation System

### I-1 Community Network Access to Base

### I-2 On-base Network

#### I-2.1 Future Transportation Plan

## J-Energy Plan

## K-Architectural Compatibility

- Architectural Districts

- Architectural Themes

## L-Landscape Development

### M-Future Development Plan

#### M-1 Current Plan

#### M-2 Short-Range Development Plan

#### M-3 Long-Range Development Plan

### N-Fire Protection

#### N-1 Systems and Utilities

#### N-2 Composite Fire Protection Planning Data

### O- Contingency Planning

#### O-1 Surge Capability (Beddown and Support of Deployed Forces)

#### O-2 Physical Security

#### O-3 Disaster Preparedness Crash Grid Map

#### O-4 Air Base Survivability and Theater- Specific Requirements